Service Schematics

Introduction

NOKIA 6290

RM-176

Important:

This document is intended for use by authorized service centers only.



“Service Schematics“ was created with focus on customer care.
The purpose of this document is to provide further technical repair information for NOKIA mobile phones on Level 3/4 service activities.
It contains additional information such as e.g. “Component finder”, “Frequency band table” or “Antenna switch table”.
The “Signal overview” page gives a good and fast overview about the most important signals and voltages on board.
Saving process time and improving the repair quality is the aim of this document.
It is to be used additionaly to the service manual and other training or service information such as Service Bulletins.

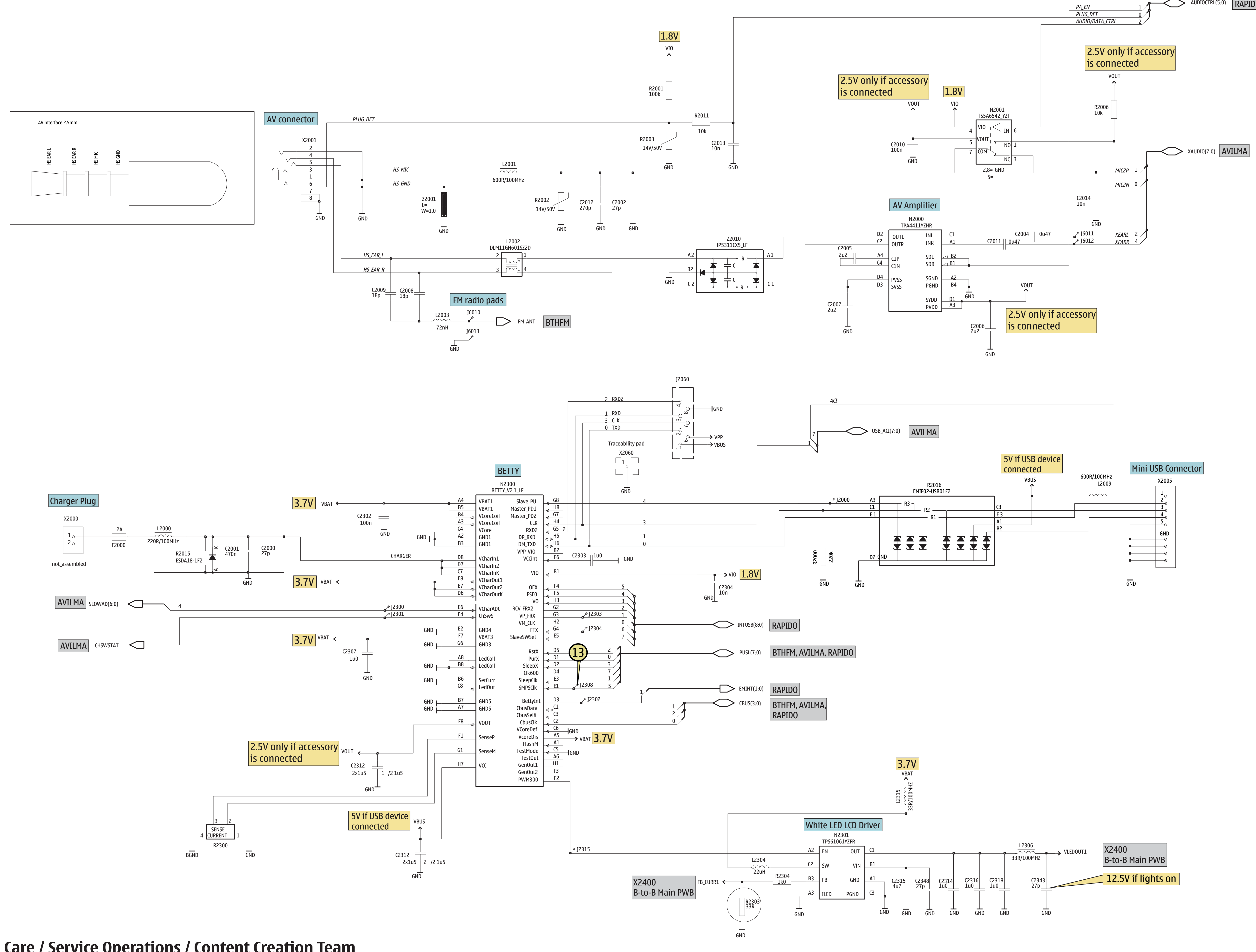
All measurements were made using following equipment:

Nokia repair SW	:	Phoenix version 2006.44.6.163
Oscilloscope	:	Fluke PM 3380A/B
Spectrum Analyzer	:	Advanced R3162 with an analog probe
RF-Generator/GSM Tester	:	Rhode & Schwarz CMU 200
Multimeter	:	Fluke 73 Series II

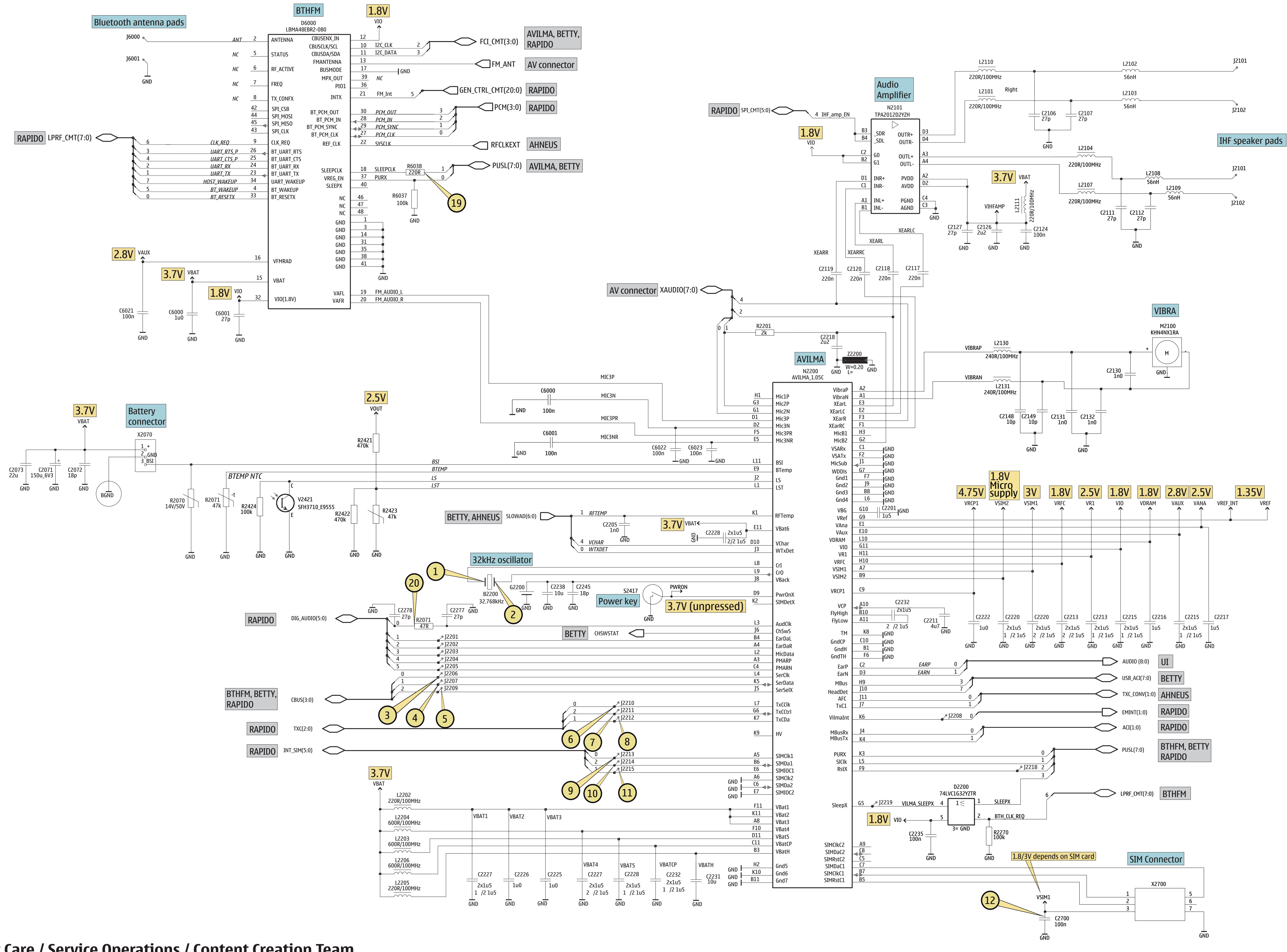
While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If the reader finds any errors, NOKIA should be notified in writing.

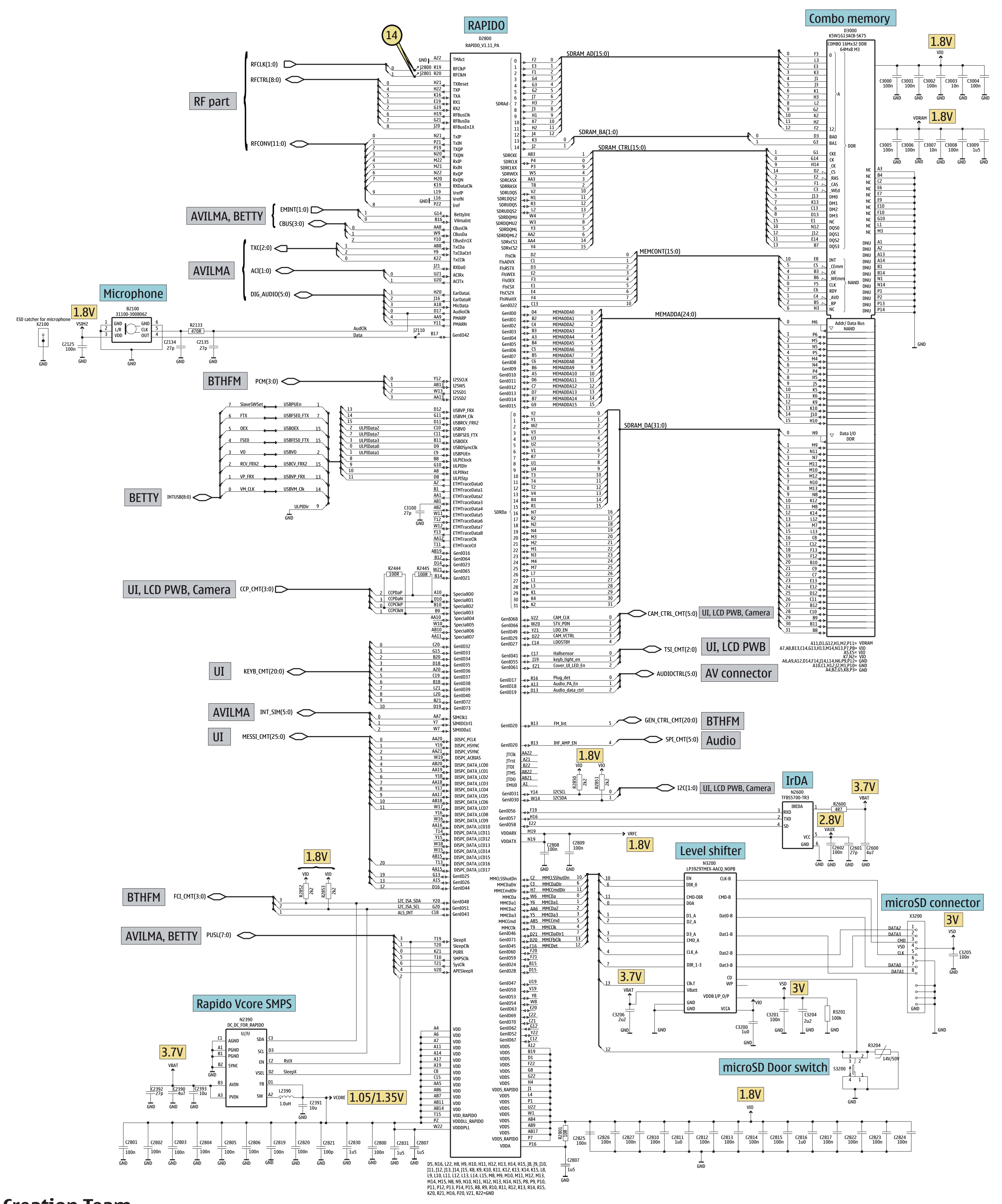
Please send E-Mail to: **training.sace@nokia.com**

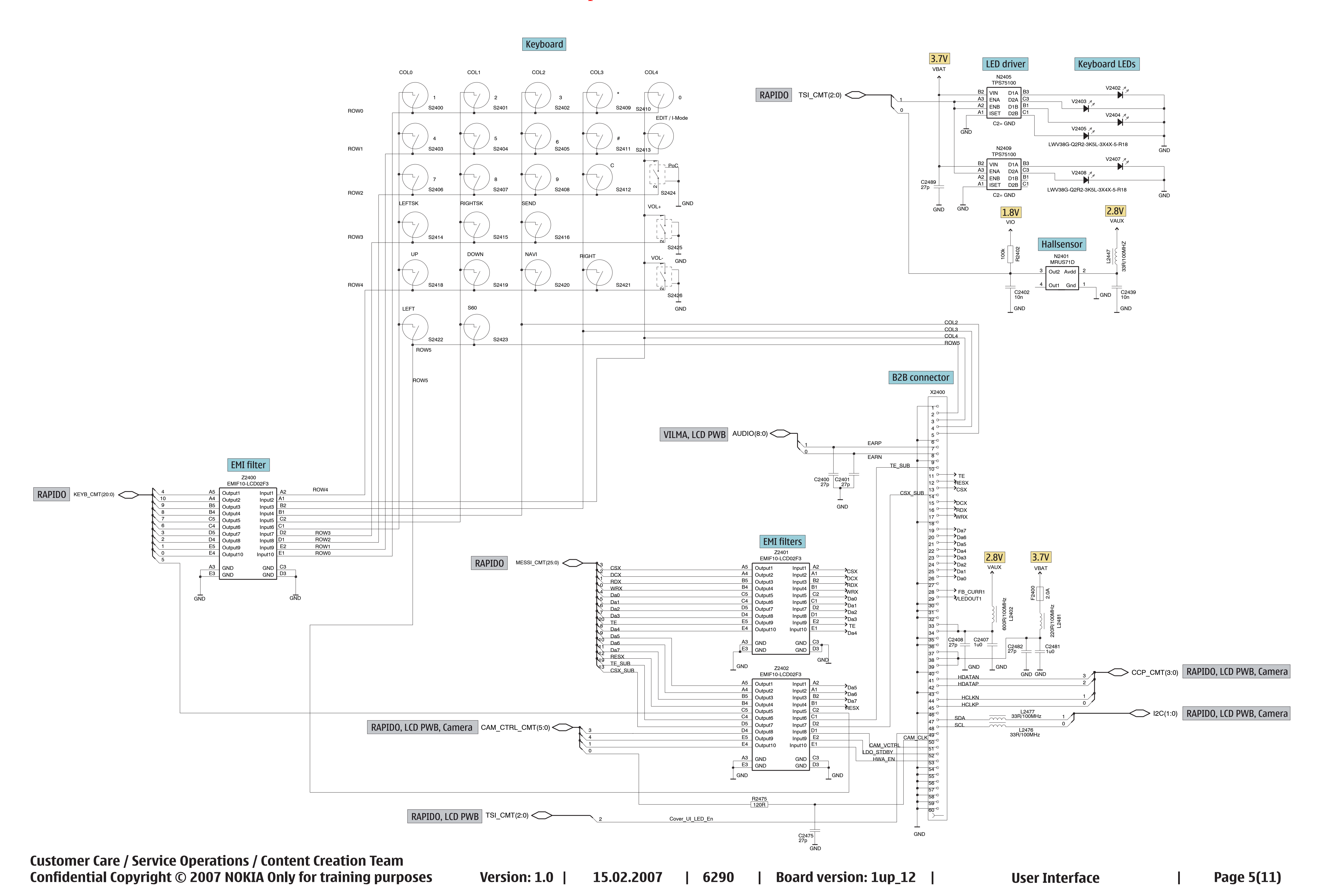
Table of contents



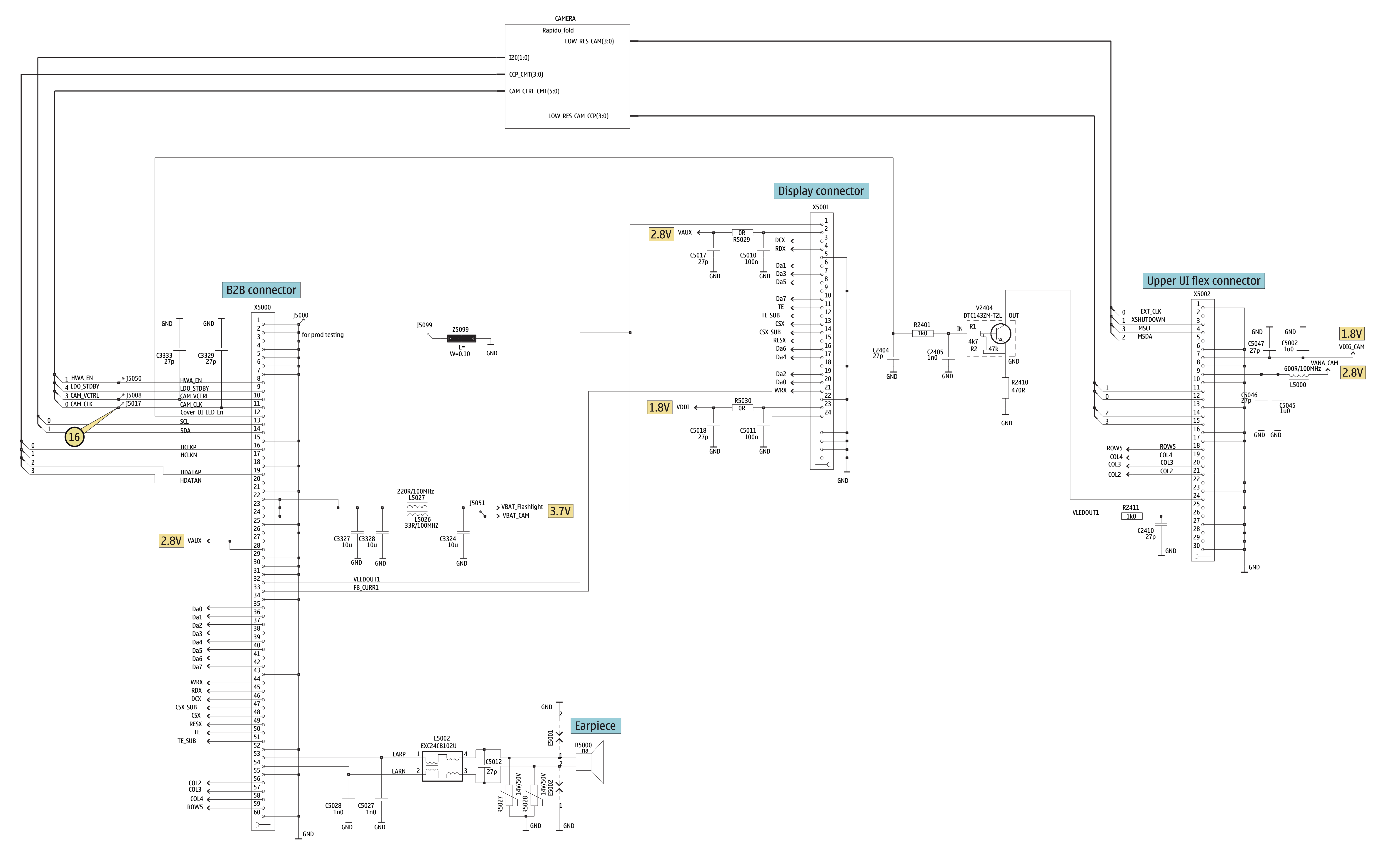
http://www.box-flx.com


Bluetooth antenna pads
BTHFM
D6000
LBMA48EBR2-080
1.8V
AVILMA, BETTY, RAPIDO
AV connector
RAPIDO
AHNEUS
AVILMA, BETTY
Audio Amplifier
N2101
TPA2012D2YZH
IHF speaker pads
3.7V
2.8V
VIBRA
M2100
AVILMA
N2200
AVILMA_1.05C
Battery connector
X2070
2.5V
BETTY, AHNEUS
32kHz oscillator
B2200
32.768kHz
Power key
3.7V (unpressed)
BTHFM, BETTY, RAPIDO
BETTY
4.75V
1.8V Micro supply
3V
1.35V
UI
BTHFM
SIM Connector
X2700
1.8/3V depends on SIM card
D2200
74LVC1G32YZTR

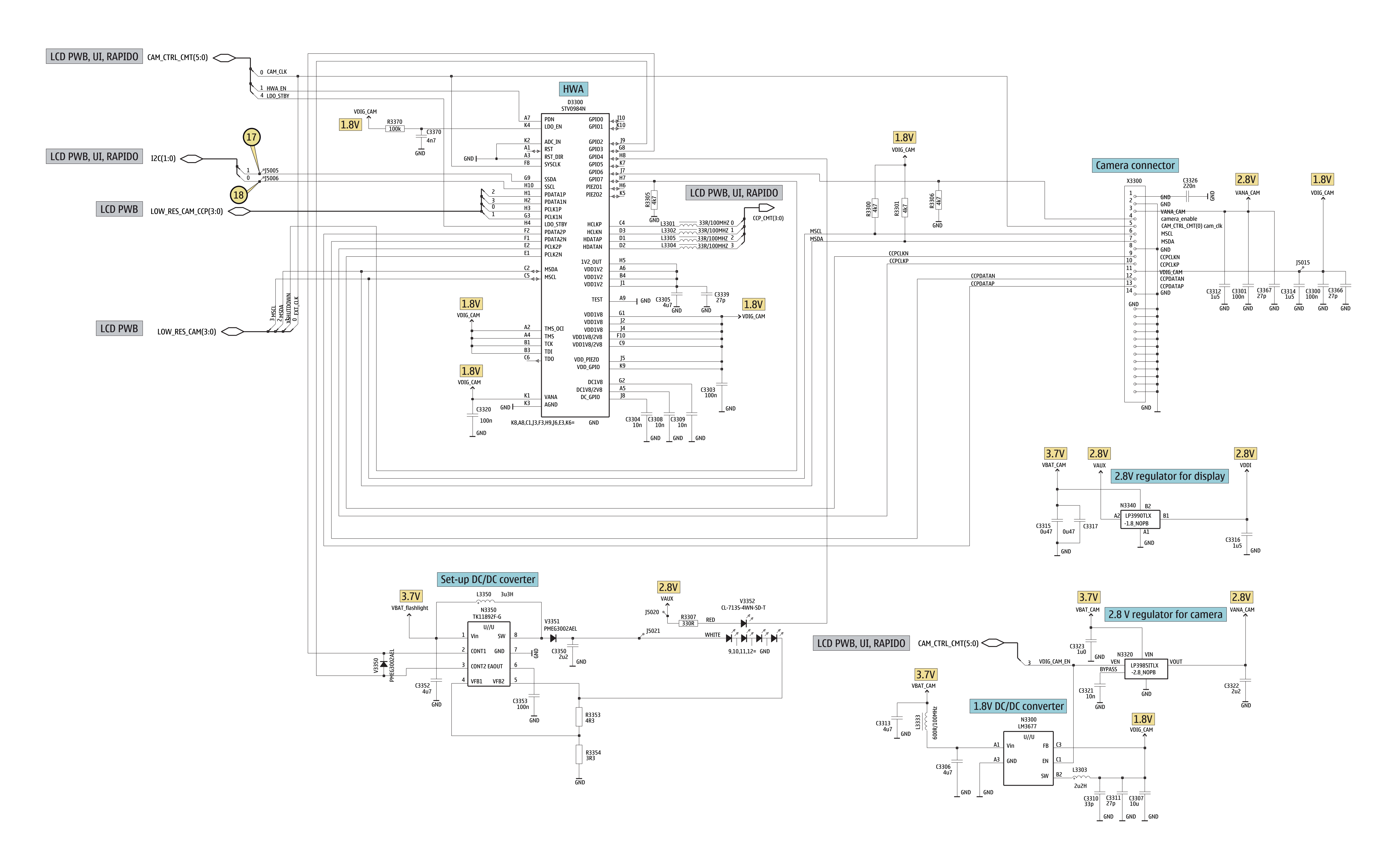

RAPIDO
Combo memory
1.8V
RF part
AVILMA, BETTY
AVILMA
Microphone
1.8V
BTHFM
BETTY
UI, LCD PWB, Camera
UI, LCD PWB
AV connector
UI
AVILMA
BTHFM
Audio
1.8V
IrDA
3.7V
2.8V
1.8V
Level shifter
microSD connector
3V
3.7V
3V
microSD Door switch
1.8V
Rapido Vcore SMPS
3.7V
1.05/1.35V

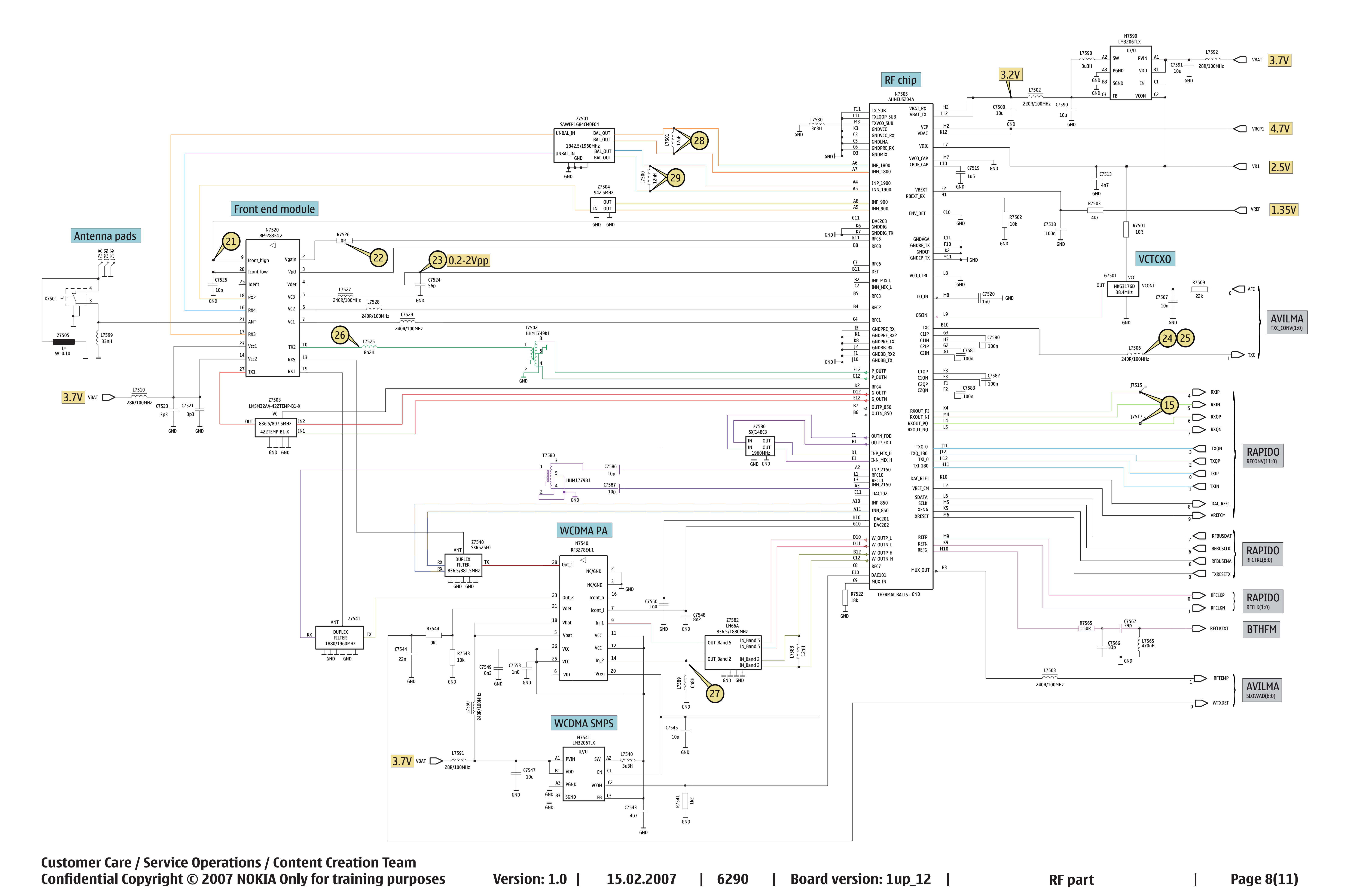


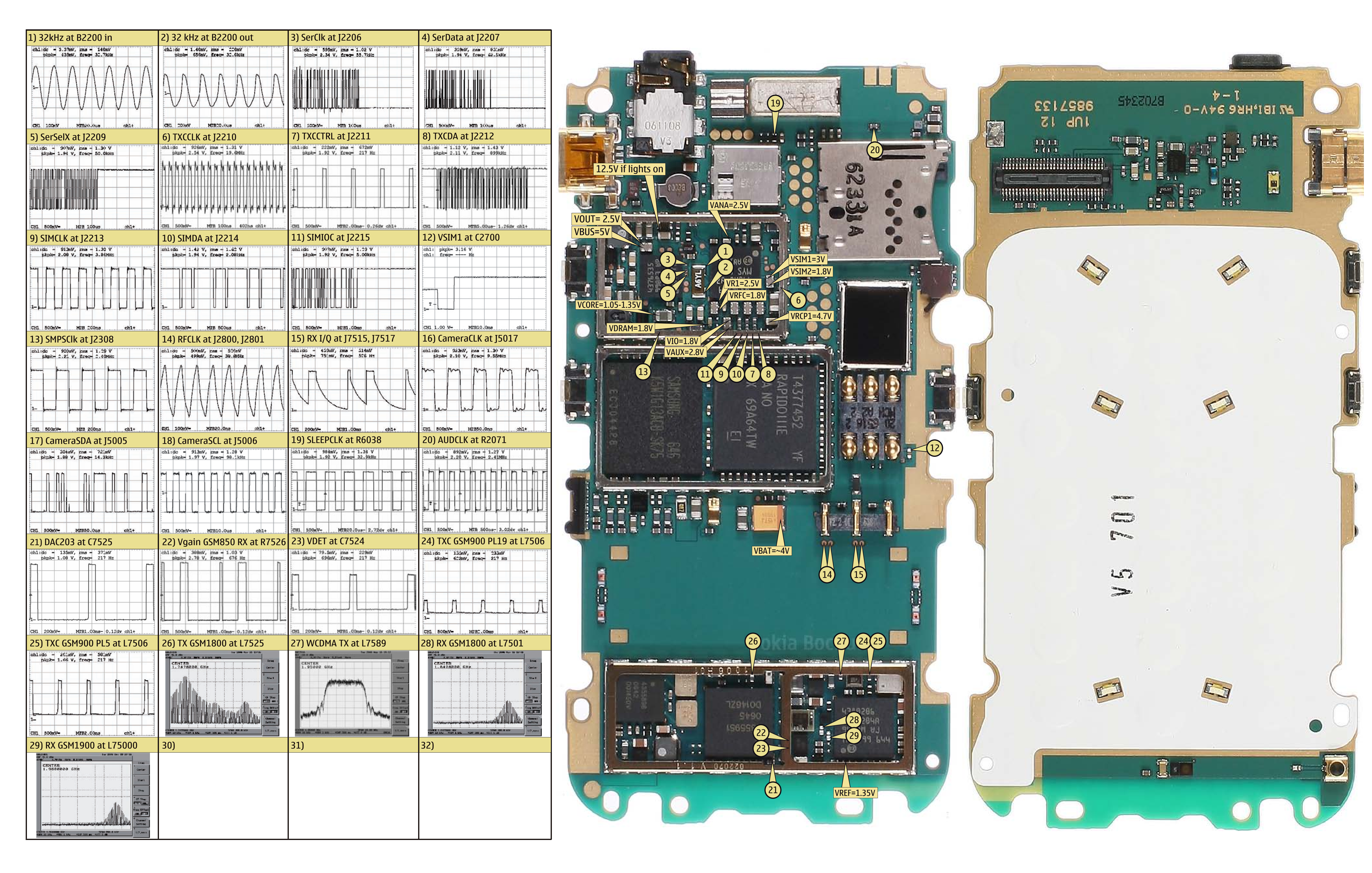
Keyboard
LED driver
Keyboard LEDs
Hallsensor
B2B connector
EMI filter
EMI filters
RAPIDO
KEYB_CMT(20:0)
TSI_CMT(2:0)
MESSI_CMT(25:0)
VILMA, LCD PWB
AUDIO(8:0)
RAPIDO, LCD PWB, Camera
CAM_CTRL_CMT(5:0)
CCP_CMT(3:0)
I2C(1:0)
RAPIDO, LCD PWB
3.7V
1.8V
2.8V
N2405 TPS75100
N2409 TPS75100
N2401 MRUS71D
Z2400 EMIF10-LCD02F3
Z2401 EMIF10-LCD02F3
Z2402 EMIF10-LCD02F3
X2400
LWV38G-Q2R2-3K5L-3X4X-5-R18
Cover_UI_LED_En

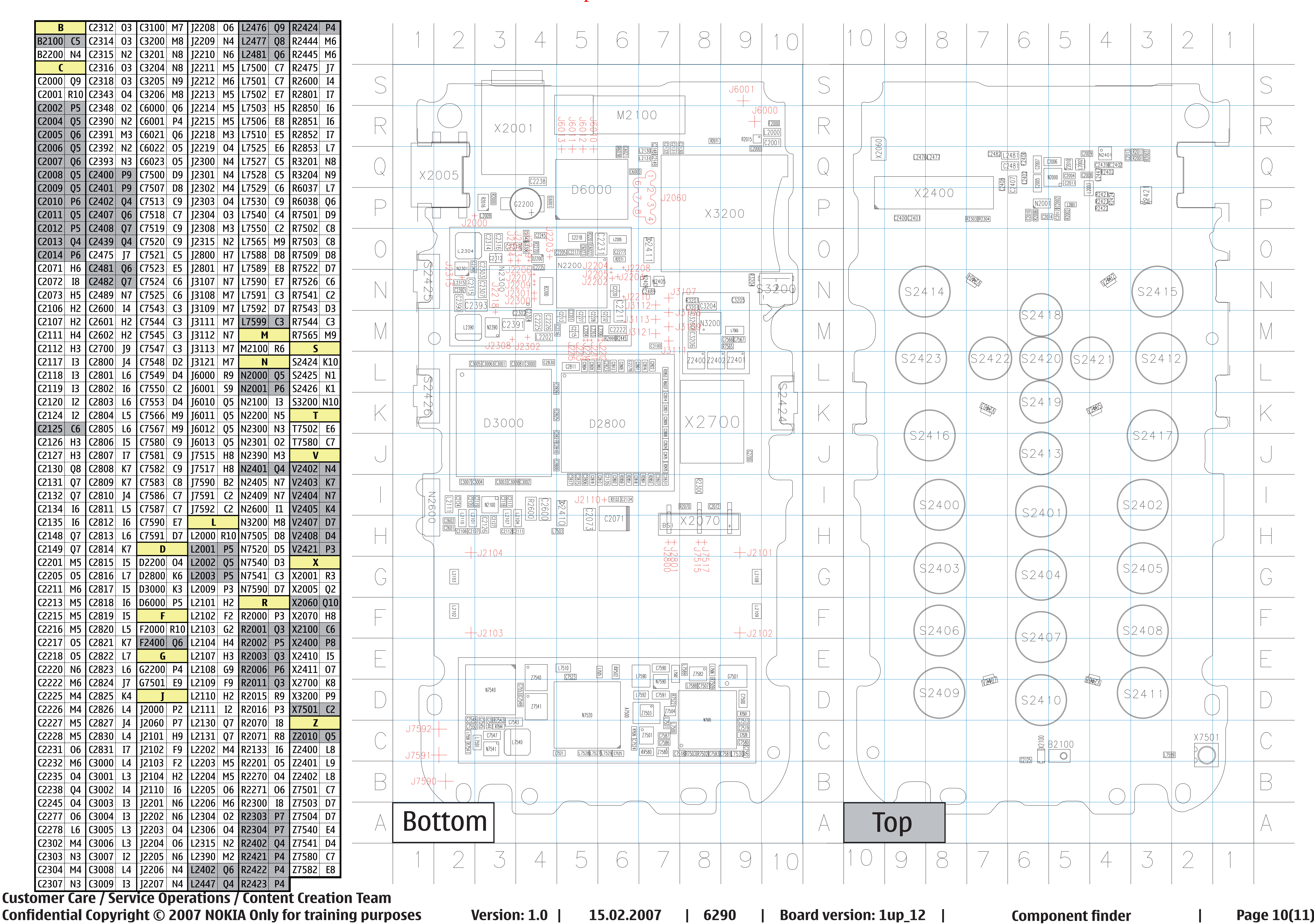


CAMERA
Rapido_fold
LOW_RES_CAM(3:0)
I2C(1:0)
CCP_CMT(3:0)
CAM_CTRL_CMT(5:0)
LOW_RES_CAM_CCP(3:0)
Display connector
X5001
2.8V
VAUX
R5029
DCX
RDX
C5017
27p
C5010
100n
GND
1.8V
VDDI
R5030
C5018
C5011
B2B connector
X5000
J5000
for prod testing
J5099
Z5099
HWA_EN
LDO_STDBY
CAM_VCTRL
CAM_CLK
Cover_UI_LED_En
SCL
SDA
HCLKP
HCLKN
HDATAP
HDATAN
VBAT_Flashlight
VBAT_CAM
3.7V
L5027
L5026
J5051
VLEDOUT1
FB_CURR1
Upper UI flex connector
X5002
EXT_CLK
XSHUTDOWN
MSCL
MSDA
1.8V
VDIG_CAM
VANA_CAM
2.8V
L5000
R2411
C2410
V2404
DTC143ZM-T2L
R2401
R2410
470R
Earpiece
L5002
EXC24CB102U
EARP
EARN
C5012
B5000
E5001
E5002
R5027
R5028
C5028
C5027


LCD PWB, UI, RAPIDO
CAM_CTRL_CMT(5:0)
LCD PWB, UI, RAPIDO
I2C(1:0)
LCD PWB
LOW_RES_CAM_CCP(3:0)
LCD PWB
LOW_RES_CAM(3:0)
HWA
D3300
STV0984N
1.8V
VDIG_CAM
Camera connector
X3300
2.8V
VANA_CAM
1.8V
VDIG_CAM
LCD PWB, UI, RAPIDO
CCP_CMT(3:0)
3.7V
VBAT_CAM
2.8V
VAUX
2.8V regulator for display
2.8V
VDDI
N3340
LP3990TLX
-1.8_NOPB
Set-up DC/DC coverter
3.7V
VBAT_flashlight
N3350
TK11892F-G
2.8V
VAUX
V3352
CL-713S-4WN-SD-T
3.7V
VBAT_CAM
2.8 V regulator for camera
2.8V
VANA_CAM
LCD PWB, UI, RAPIDO
CAM_CTRL_CMT(5:0)
N3320
LP3985ITLX
-2.8_NOPB
3.7V
VBAT_CAM
1.8V DC/DC converter
N3300
LM3677
1.8V
VDIG_CAM
17
18


RF chip
N7505
AHNEUS204A
Front end module
N7520
RF9283E4.2
Antenna pads
X7501
Z7505
Z7501
SAWEP1G84CM0F04
Z7504
942.5MHz
Z7503
LMSM32AA-422TEMP-B1-X
T7502
HHM1749K1
T7580
HHM1779B1
Z7580
SXJ148C3
WCDMA PA
N7540
RF3278E4.1
Z7540
SXR525E0
Z7541
DUPLEX FILTER
1880/1960MHz
Z7582
LN66A
836.5/1880MHz
WCDMA SMPS
N7541
LM3206TLX
N7590
LM3206TLX
VCTCXO
G7501
NKG3176D
38.4MHz
AVILMA
TXC_CONV(1:0)
RAPIDO
RFCONV(11:0)
RAPIDO
RFCTRL(8:0)
RAPIDO
RFCLK(1:0)
BTHFM
AVILMA
SLOWAD(6:0)
3.7V
3.2V
4.7V
2.5V
1.35V
0.2-2Vpp
VBAT
VRCP1
VR1
VREF
AFC
TXC
RFTEMP
WTXDET
RFCLKEXT
THERMAL BALLS= GND
21
22
23
24
25
26
27
28
29
15


1) 32kHz at B2200 in
2) 32 kHz at B2200 out
3) SerClk at J2206
4) SerData at J2207
5) SerSelX at J2209
6) TXCCLK at J2210
7) TXCCTRL at J2211
8) TXCDA at J2212
9) SIMCLK at J2213
10) SIMDA at J2214
11) SIMIOC at J2215
12) VSIM1 at C2700
13) SMPSClk at J2308
14) RFCLK at J2800, J2801
15) RX I/Q at J7515, J7517
16) CameraCLK at J5017
17) CameraSDA at J5005
18) CameraSCL at J5006
19) SLEEPCLK at R6038
20) AUDCLK at R2071
21) DAC203 at C7525
22) Vgain GSM850 RX at R7526
23) VDET at C7524
24) TXC GSM900 PL19 at L7506
25) TXC GSM900 PL5 at L7506
26) TX GSM1800 at L7525
27) WCDMA TX at L7589
28) RX GSM1800 at L7501
29) RX GSM1900 at L75000
30)
31)
32)
12.5V if lights on
VANA=2.5V
VOUT= 2.5V
VBUS=5V
VSIM1=3V
VSIM2=1.8V
VR1=2.5V
VRFC=1.8V
VCORE=1.05-1.35V
VDRAM=1.8V
VRCP1=4.7V
VIO=1.8V
VAUX=2.8V
VBAT=~4V
VREF=1.35V



B		C2312	O3	C3100	M7	J2208	O6	L2476	Q9	R2424	P4
B2100	C5	C2314	O3	C3200	M8	J2209	N4	L2477	Q8	R2444	M6
B2200	N4	C2315	N2	C3201	N8	J2210	N6	L2481	Q6	R2445	M6
C		C2316	O3	C3204	N8	J2211	M5	L7500	C7	R2475	J7
C2000	Q9	C2318	O3	C3205	N9	J2212	M6	L7501	C7	R2600	I4
C2001	R10	C2343	O4	C3206	M8	J2213	M5	L7502	E7	R2801	I7
C2002	P5	C2348	O2	C6000	Q6	J2214	M5	L7503	H5	R2850	I6
C2004	Q5	C2390	N2	C6001	P4	J2215	M5	L7506	E8	R2851	I6
C2005	Q6	C2391	M3	C6021	Q6	J2218	M3	L7510	E5	R2852	I7
C2006	Q5	C2392	N2	C6022	O5	J2219	O4	L7525	E6	R2853	L7
C2007	Q6	C2393	N3	C6023	O5	J2300	N4	L7527	C5	R3201	N8
C2008	Q5	C2400	P9	C7500	D9	J2301	N4	L7528	C5	R3204	N9
C2009	Q5	C2401	P9	C7507	D8	J2302	M4	L7529	C6	R6037	L7
C2010	P6	C2402	Q4	C7513	C9	J2303	O4	L7530	C9	R6038	Q6
C2011	Q5	C2407	Q6	C7518	C7	J2304	O3	L7540	C4	R7501	D9
C2012	P5	C2408	Q7	C7519	C9	J2308	M3	L7550	C2	R7502	C8
C2013	Q4	C2439	Q4	C7520	C9	J2315	N2	L7565	M9	R7503	C8
C2014	P6	C2475	J7	C7521	C5	J2800	H7	L7588	D8	R7509	D8
C2071	H6	C2481	Q6	C7523	E5	J2801	H7	L7589	E8	R7522	D7
C2072	I8	C2482	Q7	C7524	C6	J3107	N7	L7590	E7	R7526	C6
C2073	H5	C2489	N7	C7525	C6	J3108	M7	L7591	C3	R7541	C2
C2106	H2	C2600	I4	C7543	C3	J3109	M7	L7592	D7	R7543	D3
C2107	H2	C2601	H2	C7544	C3	J3111	M7	L7599	C3	R7544	C3
C2111	H4	C2602	H2	C7545	C3	J3112	N7	**M**		R7565	M9
C2112	H3	C2700	J9	C7547	C3	J3113	M7	M2100	R6	**S**	
C2117	I3	C2800	J4	C7548	D2	J3121	M7	**N**		S2424	K10
C2118	I3	C2801	L6	C7549	D4	J6000	R9	N2000	Q5	S2425	N1
C2119	I3	C2802	I6	C7550	C2	J6001	S9	N2001	P6	S2426	K1
C2120	I2	C2803	L6	C7553	D4	J6010	Q5	N2100	I3	S3200	N10
C2124	I2	C2804	L5	C7566	M9	J6011	Q5	N2200	N5	**T**	
C2125	C6	C2805	L6	C7567	M9	J6012	Q5	N2300	N3	T7502	E6
C2126	H3	C2806	I5	C7580	C9	J6013	Q5	N2301	O2	T7580	C7
C2127	H3	C2807	I7	C7581	C9	J7515	H8	N2390	M3	**V**	
C2130	Q8	C2808	K7	C7582	C9	J7517	H8	N2401	Q4	V2402	N4
C2131	Q7	C2809	K7	C7583	C8	J7590	B2	N2405	N7	V2403	K7
C2132	Q7	C2810	J4	C7586	C7	J7591	C2	N2409	N7	V2404	N7
C2134	I6	C2811	L5	C7587	C7	J7592	C2	N2600	I1	V2405	K4
C2135	I6	C2812	I6	C7590	E7	**L**		N3200	M8	V2407	D7
C2148	Q7	C2813	L6	C7591	D7	L2000	R10	N7505	D8	V2408	D4
C2149	Q7	C2814	K7	**D**		L2001	P5	N7520	D5	V2421	P3
C2201	M5	C2815	I5	D2200	O4	L2002	Q5	N7540	D3	**X**	
C2205	O5	C2816	L7	D2800	K6	L2003	P5	N7541	C3	X2001	R3
C2211	M6	C2817	I5	D3000	K3	L2009	P3	N7590	D7	X2005	Q2
C2213	M5	C2818	I6	D6000	P5	L2101	H2	**R**		X2060	Q10
C2215	M5	C2819	I5	**F**		L2102	F2	R2000	P3	X2070	H8
C2216	M5	C2820	L5	F2000	R10	L2103	G2	R2001	Q3	X2100	C6
C2217	O5	C2821	K7	F2400	Q6	L2104	H4	R2002	P5	X2400	P8
C2218	O5	C2822	L7	**G**		L2107	H3	R2003	Q3	X2410	I5
C2220	N6	C2823	L6	G2200	P4	L2108	G9	R2006	P6	X2411	O7
C2222	M6	C2824	J7	G7501	E9	L2109	F9	R2011	Q3	X2700	K8
C2225	M4	C2825	K4	**J**		L2110	H2	R2015	R9	X3200	P9
C2226	M4	C2826	L4	J2000	P2	L2111	I2	R2016	P3	X7501	C2
C2227	M5	C2827	J4	J2060	P7	L2130	Q7	R2070	I8	**Z**	
C2228	M5	C2830	L4	J2101	H9	L2131	Q7	R2071	R8	Z2010	Q5
C2231	O6	C2831	I7	J2102	F9	L2202	M4	R2133	I6	Z2400	L8
C2232	M6	C3000	L4	J2103	F2	L2203	M5	R2201	O5	Z2401	L9
C2235	O4	C3001	L3	J2104	H2	L2204	M5	R2270	O4	Z2402	L8
C2238	Q4	C3002	I4	J2110	I6	L2205	O6	R2271	O6	Z7501	C7
C2245	O4	C3003	I3	J2201	N6	L2206	M6	R2300	I8	Z7503	D7
C2277	O6	C3004	I3	J2202	N6	L2304	O2	R2303	P7	Z7504	D7
C2278	L6	C3005	L3	J2203	O4	L2306	O4	R2304	P7	Z7540	E4
C2302	M4	C3006	L3	J2204	O6	L2315	N2	R2402	Q4	Z7541	D4
C2303	N3	C3007	I2	J2205	N6	L2390	M2	R2421	P4	Z7580	C7
C2304	M4	C3008	L4	J2206	N4	L2402	Q6	R2422	P4	Z7582	E8
C2307	N3	C3009	I3	J2207	N4	L2447	Q4	R2423	P4		

C		J5005	O8
C2404	N3	J5006	O8
C2405	B4	J5008	P7
C2410	C5	J5015	O7
C3300	N6	J5017	N8
C3301	Q5	J5020	O8
C3303	O8	J5021	N4
C3304	N8	J5050	N7
C3305	M7	J5051	P7
C3306	P7	J5099	Q3
C3307	O7	L	
C3308	M7	L3301	M6
C3309	N7	L3302	M6
C3310	O8	L3303	O8
C3311	O8	L3304	M6
C3312	Q5	L3305	M6
C3313	P7	L3333	P7
C3314	N6	L3350	O3
C3315	C9	L5000	A5
C3316	B9	L5002	B4
C3317	C8	L5026	N4
C3320	O7	L5027	N2
C3321	O7	N	
C3322	O7	N3300	O7
C3323	O7	N3320	O7
C3324	P2	N3340	B8
C3326	Q6	N3350	O2
C3327	N3	R	
C3328	N3	R2401	C4
C3329	N3	R2410	C4
C3333	N2	R2411	C5
C3339	M7	R3300	M7
C3350	O3	R3301	M7
C3352	P3	R3305	M8
C3353	O2	R3306	M8
C3366	N6	R3307	O3
C3367	Q5	R3353	P2
C3370	O7	R3354	P2
C5002	A5	R3370	O7
C5010	B8	R5027	A4
C5011	B9	R5028	A4
C5012	B4	R5029	B8
C5017	B8	R5030	B9
C5018	B9	V	
C5027	C3	V2404	B4
C5028	C3	V3350	P2
C5045	A4	V3351	O3
C5046	A5	V3352	P2
C5047	A5	X	
D		X3300	P5
D3300	N7	X5000	M3
J		X5001	B8
J5000	P7	X5002	B5

